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RECENTLY PUBLISHED RESEARCH OF THE
MOSCOW PHARMACEUTICAL INSTITUTE

"Studies in Filtering and Percolating Solutions of Potassium Permanganate and Silver Nitrate," P. N. Korabel'skiy, Moscow Phar Inst

"Farnatsiya" Vol 9, No 1, 1946, pp 23-6

Filtration through well-wetted paper or batting yields colorless, transparent solutions of AgNO_3 (0.25, 0.5, and 1%) without loss in concentration. The solutions are stable to storage in clear glass in a dark cupboard. When KMnO_4 solutions are similarly filtered there is no concentration loss at 0.5%, but more concentrated solutions show decreases which become larger with rising initial concentration. At low concentrations, paper causes slightly more loss than batting; as initial concentration goes up, the losses for paper and batting become equal. No considerable effect on stability is observed until high concentrations (about 3.5%) are reached; then there is a stabilizing effect lasting about 5 days. A small loss in stability is observed at low concentrations. Solutions of KMnO_4 up to 1% are stable for months, but not 2 to 3.5%. Losses in concentration are apparently due to adsorption, not reduction to MnO_2 . For practical purposes, filtering solutions of KMnO_4 or AgNO_3 through well-wetted paper or cotton batting is entirely feasible at the concentrations in ordinary use.

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"Influence of Particle Size of Plant Products
on Extraction Efficiency in Aqueous Systems,"
P. N. Korabel'skiy, Moscow Phar Inst

"Farmatsiya" Vol 9, No 2, 1946, pp 16-22

As a first approximation, the optimum size of particles is about 1 mm for leaves, or 0.25-0.5 mm for roots and barks. Excessive fineness of leaves (below 0.75 mm) retards diffusion in aqueous extraction systems. Extraction efficiency can be characterized in terms of surface tension. The diffusion coefficient depends on histological structure and physicochemical properties (solubility, dispersibility, etc.) of the material. A procedure for testing extraction efficiency is described. Tests were made with belladonna, valerian, senna, oak bark, digitalis, and ipecac. Data for these products are tabulated (concentration, surface tension, viscosity, and density). Sixteen references.

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